

Insulating House Paint Saves Energy

Therma Guard insulating house paint will protect, waterproof and seal while providing space age ceramic paint insulation technology. Our interior/ exterior ceramic house paints provide the ultimate in product performance and ease of application.

Features:

Environmentally friendly
Mildew and ultraviolet resistant
Formulated with the finest pigments and resins
Are free of lead, chromate and mercury hazards.

Latex Ceramic House Paint

Therma Guard Insulating Flat is a very high hiding 100% acrylic insulating house paint that provides excellent durability on a variety of architectural surfaces. Mildew and fade resistant, (Treated with fungicide to resist mildew growth on the product film), this paint is formulated to provide minimal spatter and excellent coverage. It hides minor surface imperfections and dries quickly to a smooth matt finish. It is pre mixed at the factory with insulating ceramics, simply open the can and apply a heat reflecting coating to your walls. Application is identical to ordinary flat house paint but with the added advantage of energy saving Therma Guard ceramic microspheres and their insulating properties.

Features:

High Solids 100% acrylic vehicle
Heavy concentration of insulating ceramics.
Excellent Durability and scrub resistance
Stain and dirt resistant
Soft velvet flat finish
Exceptional hide and excellent touch-up
May be applied by brush, roller, conventional spray or airless spray.
Fast drying, 1-3 hours.
Very Low Odor
Spread Rate 200-400 Sq Ft per Gallon (depends on surface and application method)
Color: White, Can be tinted locally to pastel and mid range colors.

Recommend Uses and Application:

- For use on walls and ceilings over a wide variety of surfaces such as primed drywall, plaster, acoustical tiles, drop in ceiling panels, popcorn ceilings, concrete, stucco, brick, masonry, primed metal and wood.
- Excellent for apartments, condominiums, warehouses, motels, offices and residential buildings.

Available in 1 Gal & 5 Gal buckets

(Standard paint color for all our paints is pure white which can be tinted to your choice of pastel and medium range paint colors at your local paint store.)

Therma Guard Barrier Coat

Radiant barrier, radiation control & Vapor Retarder Coating

**A cost effective boost to conventional home insulation
that can save energy and money**

CERAMIC-ALUMINUM BARRIER COATING

As a Radiant Barrier: Stops heat from entering or escaping.

Until now the only types of radiant barriers available were foil film, metalized plastic film, and metalized "chips". These types of barriers are installed by attaching to the underside of the roof with staples or sprinkled about on top of the fiberglass insulation on the attic floor. There are a few sprayable paint coatings available that are sold as radiant barriers but **they all contain volatile solvents** which are not only hazardous to the installer but also to the homeowner as the toxic fumes penetrate down through the ceilings and into the interior. Don't be fooled by the terms "latex base", "water cleanup" as they do not reflect the true chemical makeup of the coating, read the ingredients!

Therma Guard Barrier Coat is the **ONLY** radiant barrier paint that contains pure metal (aluminum) pigment, Therma Guard insulating ceramic microspheres and **NO** mineral spirits or other volatile, flammable solvents.

How It Works:

Aluminum is highly reflective to infrared (IR) due to the high concentration of mobile electrons. Barrier Coat contains aluminum metal in the form of thin "Leafing" aluminum flakes which are highly reflective and reduce the penetration of IR radiation. The overlapping aluminum flakes align themselves parallel to and concentrated near the surface of the coating and have reflectance values of 0.75 to 0.8 for the key spectral range of 1 to 8 .mu.m. In addition to the infrared reflective aluminum pigment, Barrier Coat also contains a very high concentration of heat reducing Therma Guard Insulating ceramics. The combination of these two heat reduction pigments forms Therma Guard's exclusive "Ceramic Vacuum Matrix" which minimizes solar-induced heat build-up

As a Sound Barrier:

The THERMA GUARD hollow ceramic microspheres are a vacuum inside. Physics law states that nothing can move by conduction through a vacuum, since it represents an absence of matter. In effect we have a miniature thermos bottle... a microscopic hollow vacuum sphere that resists thermal conductivity and reduces the transfer of sound fairly well. Although Barrier Coat reduces the transfer of sound it is not intended to be a solution for serious sound problems.

As a Vapor Retarder: You Must Prevent Moisture Accumulation

Moisture control is a major concern associated with thermal insulation. The warm air inside your house contains water vapor. If this vapor passes into the insulation and condenses, it can cause significant loss of insulating value. If moisture becomes deposited in the building structure, it can cause mold growth, peeling paint, and eventual rotting of structural wood.

Vapor retarders are special materials that reduce the passage of water vapor. Vapor retarders should be used in most parts of the country. In colder climates, place the vapor retarder on the warm side--the lived-in side--of the space to be insulated. This location prevents the moisture in the warm indoor air from reaching the insulation. If you live in an area where the climate is predominantly hot and humid, check with a local builder to determine the correct placement or need for a vapor retarder. More detailed guidance on regional differences in moisture control recommendations can be found in the Moisture Control Handbook published by US Department of Energy . To guard against moisture problems, use Barrier Coat on interior walls and ceilings and provide adequate ventilation for the house. If you have a crawl space you should spray the underside with Barrier Coat.

Barrier Coat Features:

- Very low odor, soap and water clean up.
- Low applied cost per square foot
- **Dual protection:** The metallic aluminum pigment reflects away radiant energy or heat from the sun during the summer months and in winter the same microscopic aluminum particles prevent radiant heat from leaving the building. Therma Guard insulating ceramics further reduce conductive heat transfer.
- Permeable, does not trap moisture but reduces its rate of transfer.
- Easily installed using brush, roller, or spray
- Excellent for back priming wood sheathing and siding in new construction not only providing a superior radiant barrier but also protects against wood rot from water intrusion through cracks and splits in the wood
- Saves money by lowering heating and cooling cost of operation and wear and tear of the equipment.
- Improves efficiency of existing insulation by lowering the temperatures that it is exposed to.
- An Easy way to upgrade existing structures
- Easily applied to Attic Space, underside of roof decking, side walls and overhead doors in metal buildings, Duct work, Pipes, interiors of cargo transportation vehicles, barns, storage buildings, animal shelters, grain silos, poultry housing...the applications are endless
- Due to the high reflectivity of the coating Barrier Coat increases interior lighting levels in commercial and industrial buildings which aids in reducing lighting costs.
- In buildings heated by infrared heaters, wood burning stoves or other radiant heat sources, **Barrier Coat** greatly improves the efficiency of the heat source reducing fuel and energy costs
- On interior wall applications **Barrier Coat** not only provides a barrier to radiated heat but also an Aluminum vapor barrier which reduces water vapor transfer through the walls, a real plus for older homes and homes with EIFS wall systems.
- Barrier coat can be top coated with a decorative conventional wall paint.
- Environmentally Friendly! Contains No ammonia, No alcohol, No solvents!
- **SAVE Money...Do it yourself.** We include with every order, step by step instructions on how you can easily and inexpensively apply barrier coat.

Spread Rate: 250-450 sq ft per Gallon (depends on surface and application method)

Two coats are recommended on new unprimed wood to insure an even distribution of the aluminum and ceramic particles.

Available in 1 Gal & 5 Gal buckets

A Guide to Spray Painting with Airless Spray Equipment

WHY SPRAY PAINT? Well, two good reasons come to mind: it is the least costly of the three primary methods—brush, roller and spray—and it is the fastest application method.

The more irregular the space being painted, the greater the advantage of spray over other methods.

An airless spray rig consists of the pumping unit, hose and a gun. No compressor is needed because the paint is pumped through the high pressure hose and forced through very small tips which break up the paint into various size spray pattern fans. The biggest advantage to airless spraying is that since no air is used to force the paint out, there is very little over-spray and the air in the room is not filled with paint laden mist.

The amount of paint delivered is determined by the size of the tip used and by the amount of pressure used.

Tips normally are numbered in thousands of an inch. Example: .019 tip indicated a somewhat large tip suitable for most latex paint, a .015 would be ideal for oil base paints, enamels and varnish coatings.

Insulating ceramic paints spray best with tips in the .021 range, be sure and remove all filters when using ceramic paints as you do not want to filter out all the ceramics.

CAUTION: the pressure at the tip is normally in the 3000 psi range and it can not only cause a severe cut but also inject paint in to your skin! Keep your hands and fingers clear of the tip while pressure is on the machine! **Tools and equipment you will need include,** a 5 gallon bucket to mix all the paint together in, (boxing), to insure you have the same color throughout the mix. Masking tape and lots of plastic to mask off areas not to be painted, a respirator or spray mask, a hat, long sleeve shirt, and some hand cream or lotion for your exposed skin.

When you pickup your spray unit from the paint or rental store ask for an "extension" for the gun. These simply screw onto the gun allowing you extended reach and eliminating ladders.

Procedure: Mix all your paint in to the 5 gallon pail, insert the dip tube from the pump into the bucket or fill the hopper depending on which unit type you have, make sure all your fittings are tight.

Now, all units have two control knobs, a pressure control and a pump/ recirculate knob. In the recirculate mode the paint simply recirculates through the unit, pumping out trapped air and allows the pump to prime. Turn the knob to recirculate and turn on the power switch. Allow the pump to run for 2 minutes or so and it will prime and push out any trapped air. Now we are going to adjust the pressure. The biggest mistake most people, even some professionals, make is spraying too much pressure.

You need just enough pressure to create an even fan with no "tails" which are thick lines at the edge of the spray pattern. Back out the pressure knob and screw it in about 1/3rd of the way (screwing in increase pressure), point the gun at the surface to be painted or a piece of cardboard for testing and with your hand in motion, pull the trigger. If you see a thick stream at the edge of the fan increase the pressure 1/4 turn at a time until the tail is gone.

Now you have the proper amount of pressure for the material you are spraying.

Technique!!! Every time you pull the trigger you must follow the same routine. Remember that the second you pull the trigger the paint comes out instantly so, start your hand in motion first and then pull the trigger, release the trigger just before you reach the stopping point of your swing, just remember...hand in motion, pull trigger, spray, release trigger, stop hand motion.

Should you mess up and load an area with too much paint simply take a brush and spread it out.

Maximum transfer of paint is accomplished by holding the gun at the proper distance from the surface to be painted. Too close and you apply too much paint, too far away and you introduce a lot of spray in to the air as it is not hitting the surface. This distance varies and depends on the amount of pressure you are using and the viscosity of the paint so experiment until you find the proper distance, normally 12" or so is about right. Cut pieces of cardboard about 12" wide and 3' long and use them as a shield holding them up against the areas you want to protect. Cut several and when they become loaded with paint lay them aside to dry and you can reuse them later. It's a good idea to keep a bucket of clean water and a sponge handy too, you are going to slip up and over-spray onto something you don't want painted and this way you can clean it easily. When you have finished be sure and clean the equipment up, most rental places charge a pretty hefty cleaning charge if you return the unit dirty.

Put the dip tube into a clean bucket of water, back off on the pressure and put the gun into the 5 gallon pail of paint holding the tip just under the surface of the paint. The line has about 1 qt of paint in it and you can push it through the water. As soon as you see the water coming out release the trigger, move the gun over to the bucket of water again holding the tip just under the surface, and pump the water for about 2-3 minutes. Dump the water repeat the process until the water runs clean. Normally 3-4 rinses are necessary. **Power OFF!** Trigger the gun to release the pressure, clean off the exterior of the gun with a wire brush, remove the tip, clean it well and replace it. Be sure and replace the filter before returning the unit if you removed them earlier.

THE EGG TEST

To do the egg test, you will need a small piece of chicken wire covering the opening of a small box, a propane torch; a metal pipe stand just high enough to hold the egg in line with the torch; an egg that will be painted TWO COATS AND DRIED; a heat lamp to hang over the drying egg; some thread to dip the egg; and a flat surface with a hole for the pipe that holds the egg to keep the raw egg from ruining the table you do the demo on.

Set all the components up as shown in the diagram:

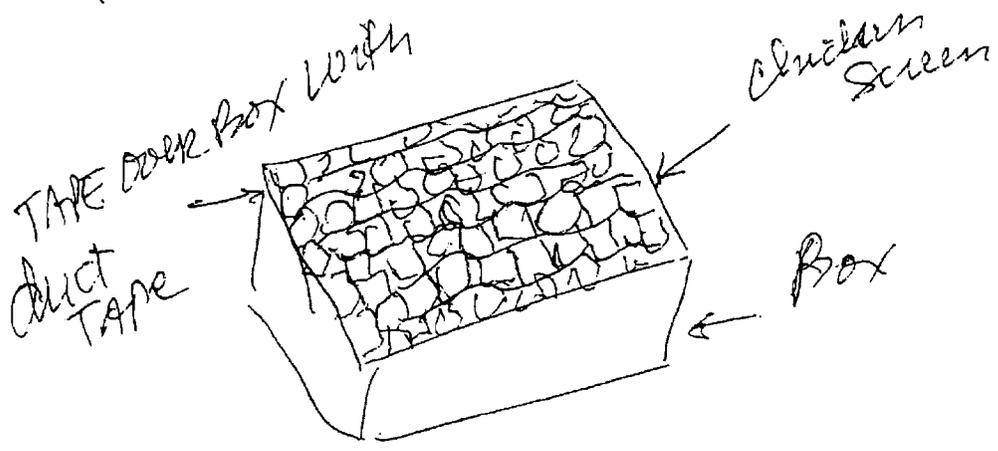
To Paint The Egg:

Use the thread to make a holder for the egg as shown so you can dip it in the paint. Submerge the egg completely in the silver paint and bring it back out of the paint. Set the wet egg on the chicken wire and let it dry three days in a warm place if you do not have a heat lamp and one full 24 hour day if you do. Then turn the dry egg over and put a thread harness on it and submerge it completely in the white paint. Make sure it gets completely submerged. Put it back on the chicken wire to dry either three days or one depending on whether or not you have a heat lamp.

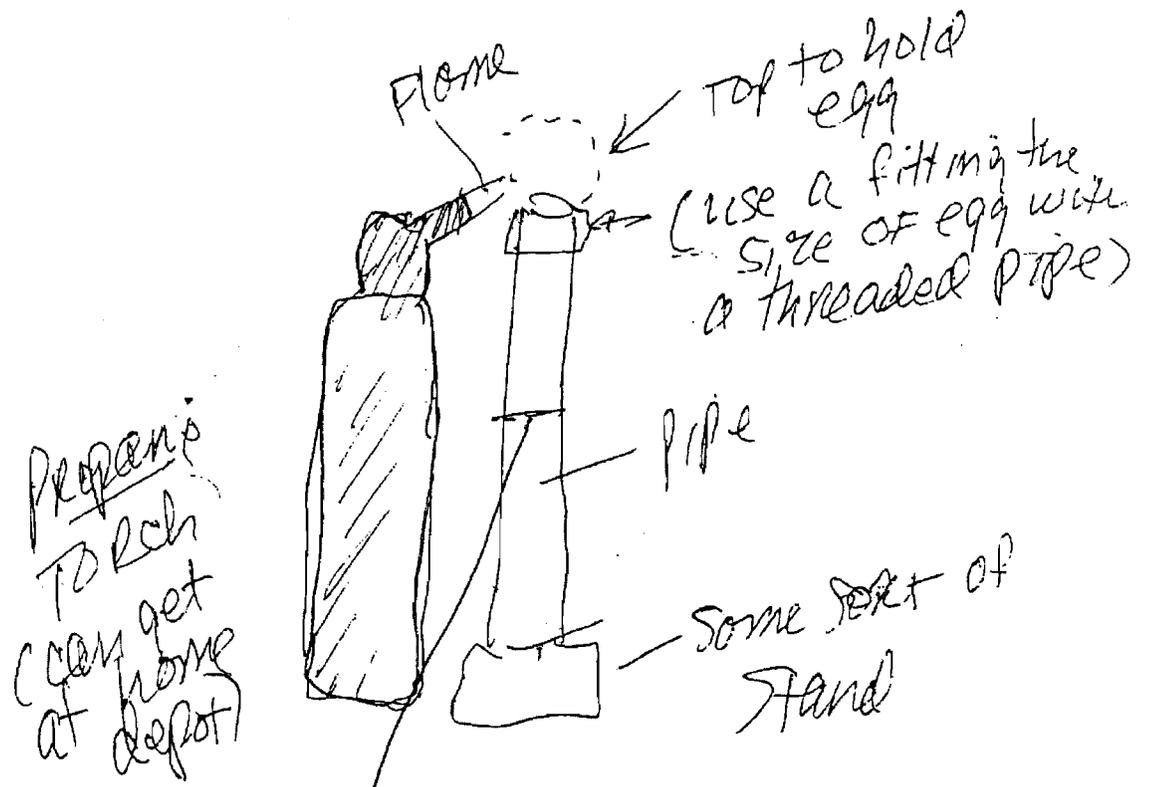
To Do The Demonstration:

Put the egg that has been painted with two coats and dried on the end of the pipe stand standing straight up. Put the propane torch alongside of the pipe also standing up so that the flame just hits the side of the egg. Turn the flame on the egg for exactly three minutes and then shut it off. There is usually some damage done to the egg, but when you hold it by the backside of the egg, it is not hot and you can put the egg in a dish. Take a knife and cut the egg in half. It will be uncooked inside!

To Dry the egg:



To Heat the egg



Propano
Torch
can get
at home
at depot

Good idea to get cardboard
base for
[O]

Therma Guard FAQs

Question: What is the "R" value?

Answer: R-values are measured by testing laboratories who use, ASTM (American Society of Testing and Materials) procedures. Existing test procedures require that the sample submitted be 1" thick therefore paints and coatings cannot be tested using established test methods. We just do our egg test to prove how effective the barrier is and let our customers draw his or her own conclusions.

Question: Do ceramics keep from breathing?

Answer: A paint coatings ability to breath is known as "Permeability" which is a measurement of the rate that water or vapor will pass through a membrane. Ceramic filled paints do not restrict a paint coatings ability to "breath."

Question: What colors are available?

Answer: Therma Guard is a ready mixed paint and comes to you in a bright white, tintable base only. You can have the paints tinted locally to the color of your choosing in pastel and mid range colors. Our paints will accept all universal tints and this way you can see the exact color you are getting and make any necessary adjustments. Another option is to use TG Cells with your own locally bought paint.

Question: How much paint do I need?

Answer: You can figure that the average spread rate is 300 to 400 sq. ft per U.S. gallon over a fairly smooth surface. If you are painting over popcorn ceilings or rough Spanish style stucco, DOUBLE the amount of paint. Your actual spread rate will vary depending on the surface irregularities, porosity and material loss when mixing.

Question: Do Insulating paints work in the summer & winter months?

Answer: Yes! Heat outside is blocked from transfer to cool walls inside in the summer. The heat inside your home is blocked from escape toward the cold outside air in winter. A paint film of Therma Guard reflective ceramics will help slow this heat transfer in both directions to lower your cooling and heating bills.

Question: What kind of paint can be used over the thermal paint?

Answer: Choose either the flat or the latex, whichever fits your needs. The insulating characteristics of your Therma Guard ceramics are unchanged.

Question: How many coats of paint should I apply?

Answer: Therma Guard is a 2 part system. For best results, 1 coat of the silver radiant barrier and then 2 coats of white are recommended to insure an even distribution of the ceramics.

Question: Should I use Insulating paint both inside and outside?

Answer: Yes! For the optimum in energy efficiency it is best to use Insulating paints both inside and out, however either application alone will increase your energy efficiency. Experience has shown the best value is to place the Therma Guard system on the warmer surface. ie: outside in southern climates and inside in northern climates.

Question: Can I spray paint?

Answer: Yes! Simply remove all filters from your spray equipment (or they will strain out the additive) and use a slightly larger spray tip than normal. Recommended tip sizes are .019 - .025.

Question: Does the paint contain harmful chemicals?

Answer: Therma Guard is free of all Volatile chemicals and toxins and is recognized as safe, under the Federal Food, Drug, and Cosmetic Act. Non-toxic, odor free and environmentally friendly.

Question: Can I paint my attic with Insulating Paint?

Answer: Absolutely! By restricting the amount of heat allowed into your attic you reduce the load on your existing insulation making it more effective.

Question: Are there application temperature recommendations?

Answer: Yes. We recommend a minimum air temp of 50F and a max of 100F.

Question: Can we guarantee your utility bills will be cut by 30%, 40% or even 50%?

Answer: Absolutely not ! Anyone that tells you they can is not telling the truth. The results depend on how many areas of your home you apply the various products to, other considerations include, amount of attic ventilation, amount of air infiltration into your home, type of roofing materials, and on and on. We have several anecdotal statements from satisfied customers we can provide if requested. We can also assure you that for the 30-40 cents /sqft it costs to apply Therma Guard Insulating Paint you will not find a better solution to your high utility bills for that price.

Question: What is the difference between using TG Cells ceramic insulating additive and my paint vs pre-mixed Therma Guard Insulating Paint?

Answer: To better understand the answer to this question you need to understand the basics of paint formulations. Basic latex paint is nothing more than a pigment, water, a binder to hold it all together and additives which can be added to improve flow and leveling, eliminate bubbles, mildewcides etc.

A paint formulators goals are to insure that

- 1.) There is sufficient pigment to make the paint cover well
- 2.) Sufficient binder to hold the pigment to the surface and give it durability and
- 3.) Enough vehicle, (water in latex paints and solvent in oil base paints) to insure easy flowing and workability.

The finished product is a balanced blend of the three basic ingredients quality depending on type of pigment used, amount of water and type of resin which is why there is quite a spread in paint prices.

TG Cells mixed with your top quality paint should perform equivalently. The main advantage you gain in adding TG Cells to your own paint is the reduced shipping costs and you actually gain a little more coverage area per gallon due to adding a little water. (See next FAQ) **But ... you should still apply the silver radiant barrier coat first.**

Question: How do I mix TG Cells with paint I buy locally ?

Answer: When you add the recommended 32 oz (by volume), 1 gallon package, per gallon to a can of ready mixed paint you are upsetting the balance of pigment vs water that the formulator originally based his "recipe" on. This makes the paint thicker which requires the addition of water in order to insure easy flow and leveling, and you are requiring the binder or resin to hold into place a greater volume of pigment. It sounds pretty bad, but not really. First of all adding 1/2 to 1 pint of water to a gallon of paint is not going to make or break its properties. Ceramics being micro ball bearings will improve flow and leveling. The hard ceramic shell resists dirt pickup and improves durability. **NOTE: It is easiest to mix TG Cells with your paint in a 5 gallon bucket with a power stirrer.**

Test Results: We took four different brands of medium priced interior wall paints and added 32 oz of Therma Guard ceramic additive, reduced the paints with 1/2 - 1 pint of water to bring back the original viscosity and performed side by side scrub tests to compare the original paint with the ceramic reinforced paint. In each and every case the ceramic filled paint outperformed the original paint !

Question: What are shipping and handling costs for Therma Guard ?

Answer: We charge **\$11/gal** to ship to TN, NC, MS, AL, GA, SC & FL. **\$12/gal** to states North of TN, NC and East of the Mississippi not otherwise noted. Also **\$12/gal** to UT, KS, MO, TX, OK, AK & LA. **\$13/gal** to MA, AZ, NM, NB, CO, IA, IL, MI, MN, ND & SD. **\$14/gal** all other states except Alaska, Hawaii & Canada (please call). Therma Guard & Miracle Shield are also available in 5 gal buckets. TG or MS price per gallon is the same but we charge \$1 less per gallon for shipping. Same shipping for Therma Guard (TG) or Miracle Shield (MS). **TG Cells are \$15 per 6 pk or \$25 /case (24 pks).**

Question: Is there a bulk purchase price break for Therma Guard ?

Answer: YES. Total purchase of >20 gallons, 5% off, >50 gallons, 10% off, >100 gallons, 15% off

THERMA GUARD
We provide the solutions...
You just need to apply them!



Therma Guard Testimonials

Hot Boiler Pipes in Maryland

I wanted to see how effective Therma Guard insulating ceramics really were so I put it on the boiler pipes (2 barrier & 3 coats white) and generated heat to it's full capacity. The temperature on the outside of the pipes was reduced by 45% ! The reduction rate has reduced the boiler run time from 2 hours down to 20 minutes ! I highly recommend your product.

JM
Owings Mills, MD

Condo in Michigan

I have a small, one bedroom condo in Southfield Michigan. Last summer I got a \$300 dollar power bill for this 1,000 sqft condo! After repainting the ceiling and walls (1 silver,2 coats tinted white ceramic), I noticed I only used 2/3 the amount of gas last winter as I did the year before. I'm anticipating a great improvement this summer as well. As an added bonus, I did not hear my neighbors near as much as before after using your products. Thanks Therma Guard !

DC
Southfield, MI

Hot Roof in Wisconsin

Before installing a new steel roof on my house, I applied Therma Guard (barrier & 1 coat white) on top of the Asphalt shingles. I did not apply it on the outer eaves of the house. The next morning about 7:30 am the shingles on the eaves were so hot you could hardly touch them. When I placed my hand where the Therma Guard was applied, the surface was cool. I also noticed the central air did not run as often as usual anymore. This is a great product!

RH
Cornell, WI

We Beat the Texas Heat !

AWESOME! That's all I can say about Therma Guard products. I am building a new wood frame building here in Houston and decided to use Therma Guard products. We set-up temperature monitors inside the building so that we could compare before and after temps. Our first application was the spraying of the underside of the roof decking..(barrier & 2 coats white) The interior temperature dropped a whopping 18 degrees !!! We sprayed the exterior walls with Therma Guard silver and tinted white and the interior temperature dropped another 7 degrees !

LJ
Houston, TX

Join the list of satisfied Therma Guard users:

Army Corp of Engineers
US Forestry Service
Federal Aviation Administration
FEMA
major industrial users
U.S. Government
N.Y. City Transportation Dept.
National Home Builders
And ... **Home Owners Worldwide !**

CERAMIC FLAT #100 MSDS

MATERIAL SAFETY DATA SHEET

SECTION I PRODUCT IDENTITY: CERAMIC FLAT #100 MSDS

NAME: UNITED COMMUNITY SERVICES OF AMERICA
ADDRESS: 10861 NORCROSS CIRCLE
CITY, STATE, AND ZIP: ORLANDO, FL 32825
DATE OF PREPARATION: (5/06)
INFORMATION TELEPHONE NO.: (407) 739-5556
For Emergency Assistance involving chemicals call CHEMTREC (800) 424-9300

SECTION II HAZARDOUS INGREDIENTS/IDENTITY INFORMATION

Table with 4 columns: HAZARDOUS COMPONENT, CAS NO., OSHA PEL OR ACG III TLV, WEIGHT %. Row 1: *Propylene Glycol, 57 55 6, 100 PPM, 0.3%. Row 2: *Indicates toxic chemical(s) subject to the reporting requirement of section 313 of Title III and or 40 CFR 372

Note: Products contain NO mercury or lead. These products may contain titanium dioxide, bentonite clays or other pigments which are hazardous only as dust when product is sanded. These products contain ingredients considered to be trade secrets. This MSDS does, however disclose all necessary information needed to handle and use the product safely.

SECTION III PHYSICAL/CHEMICAL CHARACTERISTICS

Table with 4 columns: Property, Value 1, Value 2, Value 3. Rows include Boiling Points of Major Constituent (Water), Vapor Pressure, Vapor Density, Heavier, Lighter, Solubility in Water, Specific Gravity, Melting Point, Evaporation Rate, and Appearance and Odor.

SECTION IV FIRE AND EXPLOSION HAZARD DATA

Non Flammable

Table with 4 columns: Flash Point, Flammable Limits, DOT Hazard Class, Marking. Values: Non Combustible, (?), Not Regulated, "Keep from freezing"

SPECIAL FIREFIGHTING PROCEDURES

Full protective equipment, including self contained breathing apparatus, to be worn. Water should be used to cool closed containers to prevent explosion due to extreme heat.

SECTION V REACTIVITY DATA

HAZARDOUS POYMERIZATION: Will not occur

STABILITY: Stable

INCOMPATABILITY: Avoid contact with: Strong oxidizing agents (e.g. Nitric acid, permanganates), etc.

HAZARDOUS DECOMPOSITION PRODUCTS: Some carbon monoxide

SECTION VI HEALTH HAZARD DATA, TOXICITY DATA

Route (s) of Entry: N/A Carcinogenicity? SEE NOTE IN PART II (ABOVE)

Health Hazards (Acute and Chronic)

EFFECTS OF OVEREXPOSURE: Inhalation, vapors or spray mists may be slightly irritating to eye, nose, throat, and mucous membranes of respiratory tract producing symptoms of headache, nausea in poorly ventilated areas. Skin Contact: Prolonged or repeated contact with coating may cause slight skin irritation. Eye Contact: Direct contact: inconsequential eye irritation.

EMERGENCY AND FIRST AID PROCEDURES: Eye and Skin Contact: Immediately flush eye with plenty of water for at least 15 minutes and consult physician; wash skin thoroughly with soap and water. If drenched, remove and wash clothing before reuse. Ingestion: If victim is conscious, give 2 glasses of water. Call a physician.

SECTION VII PRECAUTIONS FOR SAFE HANDLING AND USE

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED: Keep unnecessary people away. Floor may be slippery; use care to avoid falling. Dike and contain material with inert material (e.g. Sand, earth). Transfer liquid to containers for recovery or disposal and solid diking material to separate containers for disposal. Keep spills and cleaning run offs out of municipal sewers and open bodies of water.

WASTE DISPOSAL METHOD: The coating and any contaminated diking material should be thoroughly air dried and collected into drums. The drums should then be sealed and properly labeled with waste designation and landfill or incinerated according to current local, state and federal regulations.

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORING: Maximum storage temperature 100 degrees Fahrenheit. Keep closure tight and container upright to prevent leakage. Precautionary Labeling: "Keep From Freezing".

OTHER PRECAUTIONS: Do not get in eyes. Avoid skin contact. Prevent prolonged or repeated breathing of vapor or spray mists. Do not handle until the manufacturer's safety precautions and label instructions have been read and understood. Avoid breathing sanding dust.

SECTION VIII CONTROL MEASURES

RESPIRATORY PROTECTION: None required if good ventilation is maintained. Wear respirator (MSHA/NIOSH approved or equivalent) (?) suitable for concentrations and types of air contaminants encountered. Use approved chemical/mechanical filters designed to remove particulates in open and restricted ventilation areas. Use MSHA/NIOSH approved airline type respirators or hood in confined areas.

VENTILATION: Sufficient ventilation, in pattern and volume, should be provided to keep the air contaminant concentration below applicable exposure limits. All application areas should be ventilated in accordance with OSHA regulation 29 CFR Part 1910.94.

PROTECTIVE GLOVES: Impervious gloves should be worn if prolonged skin contact is likely. Use neoprene or rubber gloves to prevent prolonged skin contact.

EYE PROTECTION: Use safety eyewear including side shields, face shields, or chemical splash goggles (ANSI Z 87.1 or approved equipment).

OTHER PROTECTIVE EQUIPMENT: Use disposable or impervious clothing if work clothing contamination is likely. Use protective cream if prolonged skin contact is likely.

HYGIENIC PRACTICES: Wash hands before eating, smoking or using the restroom. Food or beverages should not be consumed anywhere this product is being applied.

SECTION IX DISCLAIMER

All information, recommendations and suggestions concerning this product are based upon tests and data believed to be reliable. UCSA (?) makes no guarantee, expressed or implied, as to the effect of use, or the safety and toxicity of the product. The information contained in this sheet is not to be construed as absolutely complete.

MATERIAL SAFETY DATA SHEET

SECTION I – Product Information

PRODUCT IDENTITY: **Therma Guard Radiant Barrier Coat** DATE OF PREPARATION: May 2006
MANUFACTURER: HY-TECH THERMAL / UCSA
ADDRESS: 10861 Norcross Circle
CITY, STATE AND ZIP CODE: Orlando, FL 32825
INFORMATION TELEPHONE #: 407-739-5556
For Emergency Assistance involving chemicals call CHEMTREC (800) 424-9300

SECTION II – Hazardous Ingredients/Identity Information

HAZARDOUS COMPONENT	CAS. NO.	OSHA PEL OR ACGIH TLV	WEIGHT %
Propylene Glycol	57-55-6	100 PPM	0 - 2%

NOTE: Products contain no mercury or lead. These products may contain titanium dioxide, bentonite clays or other pigments which are hazardous only as dust when product is sanded. These products contain ingredients considered to be trade secrets by Hy-Tech Thermal. This MSDS does, however disclose all necessary information needed to handle and use the product safely.

SECTION III – Physical/Chemical Characteristics

Boiling Points of Major Constituent (Water):	212 F	Specific Gravity (H ₂ O=1) WG/GAL	Varies w/ color
Vapor Pressure (mm Hg) @ 100 C	760	Melting Point Water (Ice) Above	32 F
Vapor Density (AIR=1)		Evaporation Rate	
Heavier	X	(Butyl Acetate=1)	Slower
Lighter			
Solubility in Water	Total	Appearance and Odor	Viscous liquid; slight ammonia odor

SECTION IV – Fire and Explosion Hazard Data

Nonflammable

Flash Point: Non-Combustible	Flammable Limits: LEL: N/A EUL: N/A	DOT Hazard Class: Not Regulated	Marking: "Keep From Freezing"
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Special Firefighting Procedures:

Full protective equipment, including self-contained breathing apparatus, should be worn. Water should be used to cool closed containers to prevent explosion due to extreme heat.

SECTION V – Reactivity Data

HAZARDOUS POLYMERIZATION: Will not occur

STABILITY: Stable

INCOMPATIBILITY: Avoid Contact with: Strong oxidizing agents (e.g., nitric acid, permanganates), etc.

CONDITIONS DO AVOID: Contains aluminum flake; DO NOT USE MECHANICAL MIXERS

SECTION VI – Health Hazard Data, Toxicity Data

Route (s) of Entry: N/A Carcinogenicity? SEE NOTE IN PART II (ABOVE)

Health Hazards (Acute and Chronic)

EFFECTS OF OVEREXPOSURE: Inhalation, Vapors or spray mists may be slightly irritating to eye, nose, throat, and mucous membranes of respiratory tract producing symptoms of headache, nausea in poorly ventilated areas. Skin Contact: Prolonged or repeated contact with coating may cause slight skin irritation. Eye Contact: inconsequential eye irritation.

EMERGENCY AND FIRST AID PROCEDURES: Eye and skin Contact; Immediately flush eye with plenty of water for at least 15 minutes and consult physician; wash skin thoroughly with soap and water; if drenched, remove and wash clothing before reuse. Ingestion: If victim is conscious, give 2 glasses of water. Call a physician.

SECTION VII – Precautions for Safe Handling and Use

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED: Keep unnecessary people away. Floor may be slippery; use care to avoid falling. Dike and contain material with inert material (e.g. sand, earth). Transfer liquid to containers for recovery or disposal and solid diking material to separate containers for disposal. Keep spills and cleaning run-offs out of municipal sewers and open bodies of water.

WASTE DISPOSAL METHOD: The coating and any contaminated diking material should be thoroughly air dried and collected into drums. The drums should then be sealed and properly labeled with waste designation and landfill or incinerated according to current local, state and federal regulations.

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORING: Maximum storage temperature 100 degrees Fahrenheit. Keep closure tight and container upright to prevent leakage.

Precautionary Labeling: "Keep from Freezing".

OTHER PRECAUTIONS: Do not get in eyes. Avoid skin contact. Prevent prolonged or repeated breathing of vapor or spray mists. Do not handle until the manufacturer's safety precautions and label instructions have been read and understood. Avoid breathing sanding dust.

SECTION VIII – Control Measures

RESPIRATORY PROTECTION: None required if good ventilation is maintained. Wear respirator (MSHA/NIOSH – approved or equivalent) suitable for concentrations and types of air contaminants encountered. Use approved chemical/mechanical filters designed to remove particulates in open and restricted ventilation areas. Use MSHA/NIOSH – approved airline type respirators or hood in confined areas.

VENTILATION: Sufficient ventilation, in pattern and volume, should be provided to keep the air contaminant concentration below applicable exposure limits. All application areas should be ventilated in accordance with OSHA regulation 29CFR Part 1910.94.

PROTECTIVE GLOVES: Impervious gloves should be worn if prolonged skin contact is likely. Use neoprene or rubber gloves to prevent prolonged skin contact.

EYE PROTECTION: Use safety eyewear including side shields, face shields, or chemical splash goggles (ANSIZ-87.1 or approved equivalent).

OTHER PROTECTIVE EQUIPMENT: Use disposable or impervious clothing if work clothing contamination is likely. Use protective cream if prolonged skin contact is likely.

HYGIENIC PRACTICES: Wash hands before eating, smoking or using the restroom. Food or beverages should not be consumed anywhere this product is being applied.

SECTION IX – Disclaimer

All information, recommendations and suggestions concerning this product are based upon tests and data believed to be reliable, Hy-Tech Industries makes no guarantee, expressed or implied, as to the effect of use, or the safety and toxicity of the product. The information contained in this sheet is not to be construed as absolutely complete.

REFERENCES:

- 1) U.S. Code of Federal Regulations (CFR) U.S. Dept. of Labor, No. 29, Parts 1900 to 1910.1200. OSHA Communications Standard 29 CFR 1910.1200.
- 2) Fire Protection Guide to Hazardous Materials, 10ed., National Fire Protection Association, Quincy, MA, 1991.
- 3) Title III List of Lists, U.S. Environmental Protection Agency publication EPA 560/4-90-011, January 1990.